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First record of *Sylvilagus brasiliensis* (Linnaeus, 1758) (Lagomorpha: Leporidae) in Rio Grande do Norte state, Northeast Brazil

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Abstract: We document the first record of *Sylvilagus brasiliensis* (Linnaeus, 1758) in Rio Grande do Norte state, Brazil. An adult individual was photographed in October 2015 in the municipality of João Câmara. This is the northernmost report of this species for the Caatinga biome. This article also represents important data for the Rio Grande do Norte, since the mammal diversity of this state is practically unknown.

Key words: Caatinga; distribution; Tapeti; mammals

The genus *Sylvilagus* Gray, 1867 is represented by 17 species of New World rabbits, most of them occurring in North America (Chapman and Ceballos 1990; Hoffman and Smith 2005). *Sylvilagus brasiliensis* (Linnaeus, 1758) is the only species that occurs exclusively in South America, where it is widely known as Tapeti. Dorsal colour of its dense fur is yellowish mixed with dark brown. There is a white collar around the neck, whitish regions above the eyes and on the long ear. The ventral pelage is white with a grey base. It is a solitary animal, living predominantly in shrublands, forest edges, rainforests, planted areas, where it feeds mainly on seeds, roots, leaves and fruit (Hoffmann and Smith 2005; Feijó and Langguth 2013).

Hoffmann and Smith (2005) recognize 21 subspecies of *S. brasiliensis*. However, it is possible that some of them might be elevated to species level if the taxonomy of this group is revised (Langguth and Sousa 2003). For example, karyotypic and molecular analyses suggest that the diversity of *Sylvilagus* in eastern Brazil may be greater than the single species recognized on the basis of external morphology. Therefore, further studies are necessary for clarifying its taxonomic status (Bonvicino et al. 2015).

Sylvilagus brasiliensis is distributed from the Mexican east coast to northern Argentina (Diersing 1981). In Brazil, it occurs in all biomes, namely in Amazonia, Atlantic Forest, Caatinga, Cerrado and Pampas. Nevertheless, its occurrence in the Northeast region is documented only by few records (Mares 1981, 1985; Feijó and Langguth 2013), except in Maranhão state, where there are several reports from Amazonian localities (Silva-Júnior et al. 2005). Most of the Brazilian Northeast is covered by Caatinga, a semiarid biome with dry forests and open areas. Recently, Feijó and Langguth (2013), who compiled the knowledge on the diversity and distribution of medium and large-sized mammals in the states of Paraíba, Pernambuco and Ceará (included in this region), documented 13 voucher specimens housed in Brazilian collections. Most of them (n = 10) were collected in Atlantic Forest areas and only three are from localities into the Caatinga biome.

This article presents the first occurrence of *Sylvilagus brasiliensis* for Rio Grande do Norte state, Northeast Brazil. On 28 October 2015, an adult individual (Figure 1) was photographed by KSS in the municipality of João Câmara (05°23′28.97″ S, 035°51′46.84″ W) (Figure 2) during a field expedition. The climate type is semiarid (Köppen's BSh), with annual rainfall of 620 mm and relative humidity around 68% (IBGE 2015). The photo was taken at 18:54 h, in the edge of a dry forest fragment near agricultural areas and dirt roads. The substrate

Figure 1. *Sylvilagus brasiliensis* recorded in João Câmara, Rio Grande do Norte state, Brazil (photo by Kalyl S. Serra).

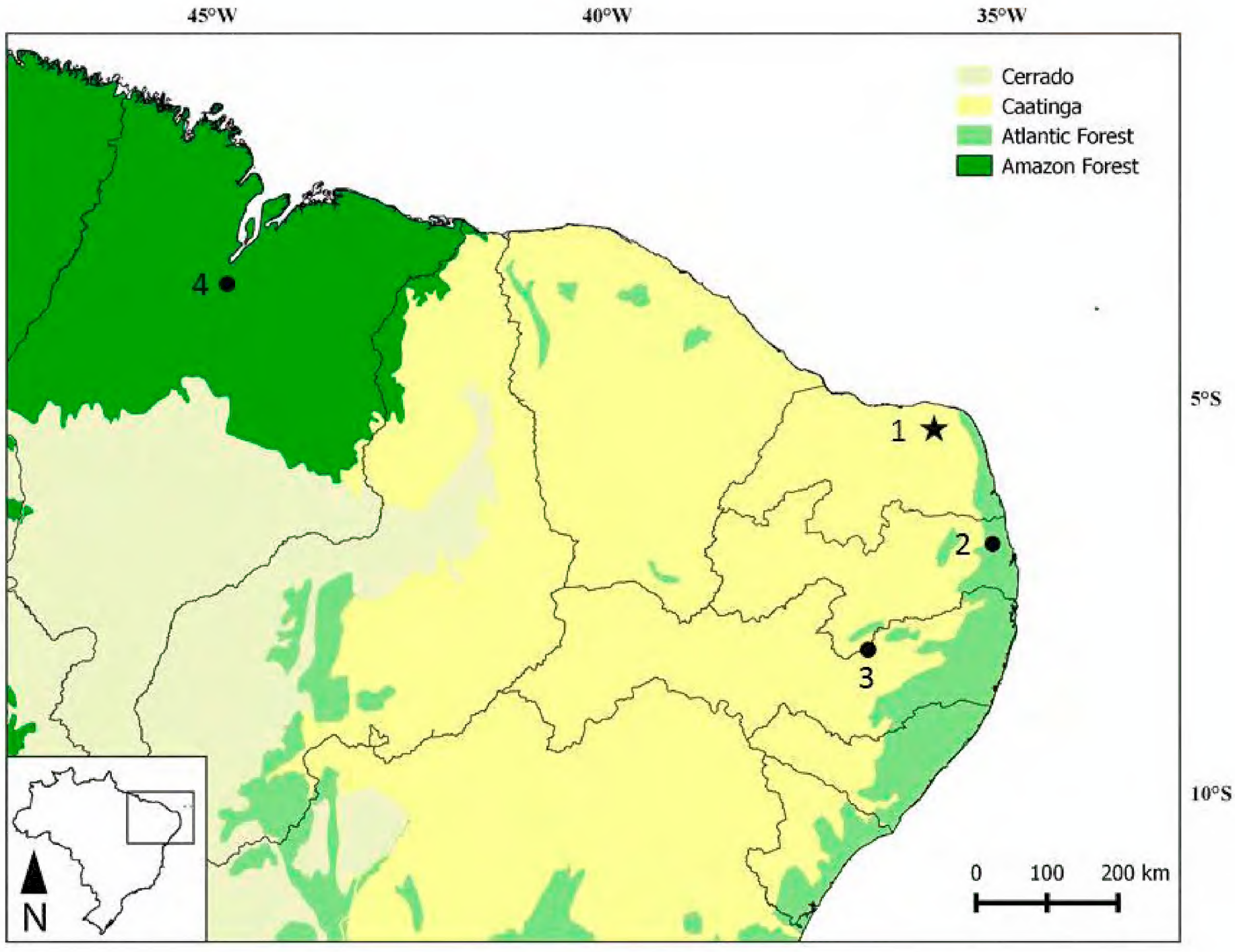

Figure 2. Records of *Sylvilagus brasiliensis* in the biomes of Northeastern Brazil. 1. João Câmara, Rio Grande do Norte state (present study: star). 2. Mamanguape, Paraíba state (the nearest locality previously reported). 3. Poção, Pernambuco state (nearest known record for Caatinga). 4. Santa Inês, Maranhão state (nearest locality reported to the west).

is sandy, with dense leaf litter and lack of herbaceous cover. The vegetation type of the locality is formed by hypoxerophytic Caatinga vegetation 3.5 m high. Most of this area is devoted to agriculture and cattle ranching.

The animal has unmistakable morphology, especially considering its record in the Caatinga, where there is no documented introduction of the European Brown Hare *Lepus europeus* (Pallas, 1778). This is an invasive species which has established populations in Southern and Southeastern Brazil (Auricchio and Olmos 1999; Faria et al. 2015). Moreover, *Sylvilagus* has relatively shorter limbs as well as ears proportionally smaller and with lighter colour in relation to *Lepus* (Feijó and Langguth 2013).

This record expands the known distribution of Tapeti 194 km north in the Caatinga of northeastern Brazil. The closest locality to the south is Mamanguape (coastal Atlantic Forest, Paraíba state), and the closest locality in the Caatinga is from Poção, which lies 322 km to the south in Pernambuco state (Feijó and Langguth 2013). This is the northernmost record of Tapeti in the Caatinga biome. To the west, the nearest report is located in the municipality of Santa Inês (Amazon region, Maranhão state), 1,013 km away (Silva-Júnior et al. 2005).

The absence of records in Ceará and Piauí states could be due to a lack of survey effort or low densities caused by historical threats, such as hunting and deforestation. Although *S. brasiliensis* is not included on national (MMA 2014) and international (IUCN 2015) lists of endangered species, studies indicate population declines in some regions of Brazil. For example, this animal is classified as endangered in Paraná state (Margarido and Braga 2004) and other authors point out hunting, habitat loss and fragmentation, road kill, predation by dogs and introduction of *Lepus europeus* as the main threats (Auricchio and Olmos 1999; Cáceres et al. 2010; Chiarello 2000; Galetti and Sazima 2006). The first three are easily detected in Rio Grande do Norte (Torres et al. 2009; Oliveira et al. 2010).

This work is also important to improve the knowledge regarding vertebrate zoology in Rio Grande do Norte state. In addition to the lack of conservation units (Torres et al. 2009), there is still a serious shortage of zoological studies in this region. Particularly for mammals, most of the state remains unexplored (Feijó and Langguth 2013) and no robust surveys have been carried out. Scientific literature has documented only sporadic information about primates (Ferreira et al. 2009), fossil mammals (Porpino and Santos 2002; Porpino et al. 2004, 2009), and studies addressing the use of the fauna in protected areas (Oliveira et al. 2010).

Thus, more studies focused on *Sylvilagus brasiliensis* and other mammals are necessary in order to understand the taxonomic diversity, ecological relationships and threats to the mammal fauna of Rio Grande do Norte and enforce its conservation.

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